

REMARKS/ARGUMENTS

Favorable consideration of this application, as presently amended and in light of the following discussion, is respectfully requested.

Claims 13, 14 and 17-32 are presently pending in this application, Claims 15 and 16 having been canceled, Claims 13 and 17 having been amended and Claims 23-32 having been added by the present amendment.

In the outstanding Office Action, Claims 13, 14, 20 and 21 were rejected under 35 U.S.C. §102(b) as being anticipated by Saito et al. (U.S. Patent 6,635,853); Claim 18 was rejected under 35 U.S.C. §103(a) as being unpatentable over Saito et al. in view of Sugaya et al. (U.S. Patent 6,518,548); Claims 15 and 16 were rejected under 35 U.S.C. §103(a) as being unpatentable over Saito et al.; Claims 19 and 22 were rejected under 35 U.S.C. §103(a) as being unpatentable over Saito et al. in view of Schaper et al. (U.S. Patent 6,359,264); and Claim 17 was rejected under 35 U.S.C. §103(a) as being unpatentable over Saito et al. in view of Kallgren et al. (U.S. Patent 5,973,298).

Claims 13 and 17 have been amended and Claims 23-32 have been newly added. These amendments and additions in the claims are fully supported by the specification, drawings and claims as originally filed. For example, Claim 13 is supported by page 13, lines 19-34, Table 1, page 33, and page 33, line 34, to page 34, line 3; Claims 17 and 23-27 by page 15, line 29, to page 16, line 21; and Claims 28-32 by Figure 4 and page 12, lines 27-33, of the specification. Hence, no new matter is added thereby.

Before addressing the outstanding art rejections, a brief summary of amended Claim 13 is believed to be helpful. For example, referring to the non-limiting embodiment of Fig. 2, Claim 13 as currently amended is directed to a hot plate unit which includes a supporting case having a thickness (L) of 50 mm or less and including a bottom, a ceramic substrate fitted to the

supporting case and having a surface and a thickness (l), a resistance heating element provided on the surface of the ceramic substrate or inside the ceramic substrate, and a coolant introducing pipe disposed at the bottom of the supporting case, wherein a ratio (l/L) of the supporting case thickness over the substrate thickness is in a range of about 0.02 to 0.2. By providing the thicknesses of the ceramic substrate and supporting case as such, the ceramic substrate requires significantly less temperature-dropping time.¹

The outstanding Office Action asserts that “Saito ... is *silent regarding a thickness of the case*” (emphasis added in *italic*) but “[i]t would have been obvious to one having ordinary skill in the art to modify Saito’s invention to have the ration of thickness of the ceramic 9 to the thickness of the case 9 [sic] ... in order to be adaptable for quick and forcible cooling.” It is, however, respectfully submitted that Saito et al. does not teach or suggest “a supporting case having a thickness, L, of 50 mm or less and including a bottom; [and] a ceramic substrate fitted to said supporting case and having a surface and a thickness, l ..., wherein a ratio, l/L, is in a range of about 0.02 to 0.2” as recited in amended Claim 13. According to MPEP, it is stated that in order to properly combine or modify references for the purpose of the obviousness rejection, *the references must suggest the desirability of a proposed combination or modification beyond the mere fact that references can be combined or modified*,² and CAFC established that *substantial evidence of motivation or teaching must be shown for combining or modifying the references*,³ and also that such modification requires “*clear and particular*

¹ See, Specification, page 33, Table 1, Examples 1-4, using a ceramic substrate.

² MPEP 2143.01, *In re Mills*, 916 F.2d 680, 16 USPQ2d 1430 (Fed. Cir. 1990). See also MPEP 2144.08 III stating that “[e]xplicit findings on motivation or suggestion to select the claimed invention should also be articulated in order to support a 35 U.S.C. 103 ground of rejection Conclusory statements of similarity or motivation, without any articulated rational or evidentiary support, do not constitute sufficient factual findings.”

³ *In re Gartside*, 203 F3d 1305, 53 USPQ2d 1769 (Fed. Cir. 2000) (holding that, consistent with the Administrative Procedure Act at 5 USC 706(e), the CAFC reviews the Board's

evidence."⁴ Although there are numerous and various ways to reduce a cooling time, Saito et al. only states that an increased number of the intake ports 17 or discharge ports 18 may be used to cool the hot plate 3 within a short period of time, and nowhere does Saito et al. state or suggest that thicknesses of a substrate and a supporting case, or a ratio thereof for that matter, may be adjusted to achieve quick and forcible cooling. Moreover, other than the conclusory statement to the effect that it would be obvious to an artisan having ordinary skill in the art, no "substantial evidence" or "clear and particular evidence" to support the proposed modification is provided in the Office Action. Thus, without any proper motivation to modify Saito et al., the proposed modification in the Office Action is believed to be guided by impermissible hindsight predicated on Applicant's disclosure. It is therefore respectfully submitted that the subject matter recited in Claim 13 is patentably distinguishable from Saito et al.

Sugaya et al., Schaper et al. and Kallgren et al. disclose a substrate temperature control system, a thermal cycling module, and a circular film heater, respectively. Nevertheless, none of these references teaches "a supporting case having a thickness, L, of 50 mm or less and including a bottom; [and] a ceramic substrate fitted to said supporting case and having a surface and a thickness, l ..., wherein a ratio, l/L, is in a range of about 0.02 to 0.2" as recited in amended Claim 13. More specifically, Sugaya et al. discloses a temperature control plate having projections on its surface, Schaper et al. discloses a thermally conductive support

decisions based on factfindings, such as 35 U.S.C. § 103(a) rejections, using the 'substantial evidence' standard because these decisions are confined to the factual record compiled by the Board.).

⁴ *In re Dembiczak*, 175 F3d 994, 999, 50 USPQ2d 1614, 1617 (Fed. Cir. 1999) ("We have noted that evidence of a suggestion, teaching, or motivation to combine/modify may flow from the prior art references themselves, the knowledge of one of ordinary skill in the art, or, in some cases, from the nature of the problem to be solved, although 'the suggestion more often comes from the teachings of the pertinent references.' The range of sources available, however, does not diminish the requirement for actual evidence. That is, the showing must be clear and particular." (emphasis added).

structure with a fluid distributor for directing a coolant onto itself, thereby decreasing the temperature of a substrate, and Kallgren et al. simply discloses a range cook top having a porcelain enameled steel. As such, the subject matter recited in Claim 13 is clearly distinguishable from Sugaya et al., Schaper et al. and Kallgren et al.

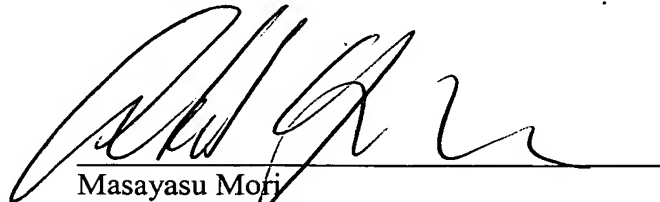
Because none of Saito et al., Sugaya et al., Schaper et al. and Kallgren et al. discloses the ceramic substrate and supporting case as recited in amended Claim 13, even the combined teachings of these cited references are not believed to render the structure recited in Claim 13 obvious.

For the foregoing reasons, Claim 13 is believed to be allowable. Furthermore, since Claims 14 and 17-32 depend directly or indirectly from Claim 13, substantially the same arguments set forth above also apply to these dependent claims. Hence, Claims 14 and 17-32 are believed to be allowable as well.

In view of the amendments and discussions presented above, Applicants respectfully submit that the present application is in condition for allowance, and an early action favorable to that effect is earnestly solicited.

Respectfully submitted,

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